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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,683	04/15/2002	Karl Bauer	10537/195	6303

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EXAMINER

ORMAN, DARREN W

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,683

Applicant(s)

BAUER ET AL.

Examiner

Darren W Gorman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The IDS filed on January 22, 2002 is hereby acknowledged and has been placed of record. Please find attached a signed and initialed copy of the PTO 1449.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "7", "8", and "9" have been used to designate each member of pairs of parts associated with the rupture diaphragms in Figures 2-4. Examiner suggests either re-numbering the elements using different numbers, or using subscripts (i.e. 7₁ and 7₂) to designate the each member of the pairs. Applicant is reminded that the specification should be amended to reflect the above changes to the drawings.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Minor Claim Suggestions By Examiner

4. The body of the claims of the present invention is understood by the Examiner, however the following changes are recommended to improve clarity. The claims have been examined on the merits including the suggested changes below.

Claim 5 should be rewritten as below to overcome possible confusion over double inclusion of "a rupture joint".

5. The extinguisher according to claim 4, wherein the rupture joint is embodied circumferentially [diaphragm includes a circumferential rupture joint] at an edge of the at least one rupture diaphragm.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's disclosure of admitted prior art, in view of Cullinane et al., USPN 6,178,983.

As shown in Figure 1 of Applicant's disclosure, and described in detail in Applicant's specification on page 4, lines 6-18, Applicant admits to be of conventional construction, an extinguisher (1) for fighting fire and incipient explosions comprising: a device (2) configured to generate compressed gas; an extinguishing-agent vessel (5); and at least one rupture diaphragm

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(3,4) sealing the extinguishing-agent vessel, the rupture diaphragm curved in a direction of the device configured to generate compressed gas.

Applicant's admitted prior art description, however, does not teach the at least one rupture diaphragm including a circumferential rupture joint, nor does it teach the at least one rupture diaphragm including one of a central, planar surface and a depression curved away from the device configured to generate compressed gas.

Culliinane teaches a reverse buckling (inverting) rupture diaphragm (44) having a convex surface (47) curved in the direction of a pressurized fluid (being either liquid or gas) (see column 9, lines 30-36), and a substantially circumferential rupture joint (80) creating a circumferential line of weakness, which will tear upon exposure to fluid pressure above a predetermined threshold, when the rupture diaphragm inverts (see Figure 2; and column 6, lines 16-21, and column 9, lines 36-44). Culliinane also teaches that the circumferential rupture joint (80) may be located at the transition area (49) between the dome portion (45) and the flange portion (48) of the rupture diaphragm, or on the flange itself (thereby being at an edge of the rupture diaphragm) (see Figure 7; and column 6, lines 30-38). Still further, Culliinane shows alternative arrangements of the rupture diaphragm including wherein the convex surface of the rupture diaphragm may include a central, indented planar surface (140) (see Figure 8), or a central, curved away depression (140) (see Figure 7), which is expressly disclosed to improve burst accuracy of the rupture diaphragm (see column 11, lines 23-67, through column 12, lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Applicant's admitted prior art extinguisher to include a circumferential rupture joint at an edge of the rupture diaphragm, as taught by Culliinane, in order to provide a

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definitive weakness point for the diaphragm to tear when exposed to a predetermined pressure, allowing unimpeded flow of extinguishing material.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Applicant's admitted prior art extinguisher to include either a central, indented planar surface or a central, curved away depression surface, as taught by Culliinane, in order to improve burst accuracy of the rupture diaphragm.

Allowable Subject Matter

7. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Scholz, Griffith et al., Fike, Sr. et al., McLelland et al., Arend, and Galbraith et al., are cited as of interest.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W Gorman whose telephone number is 703-306-4205. The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

Darren W Gorman
Examiner
Art Unit 3752

DWG 1/28/04
DWG
January 28, 2004

Michael Mar
MICHAEL MAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700